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ARIZONA CORPORATION COMMISSION

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EXECUTIVE SECRETARY

September 4, 1998

VIA FEDERAL EXPRESS

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street
Room 222
Washington, D.C. 20554

Re: Federal-State Joint Board on Universal Service
Docket No. 96-45

Forward-Looking Mechanism for High Cost Support
For Non-Rural LECs
Docket No. 97-160

Dear Secretary Salas:

Attached are the original and four (4) copies of the Arizona Corporation Commission's Motion to File Late-Filed Comments and Initial Comments on the CCB Notice Regarding Model Platform Development in the above-captioned dockets.

Please do not hesitate to contact the undersigned if you have any questions regarding this matter.

Very truly yours,

Maureen A. Scott
Attorney

MAS/ms

Attach.

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List ABCDE

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20054

In the Matter of	)	
	)	
Federal-State Joint Board on Universal Service	)	**Docket No. 96-45**
	)	
	)	
Forward-Looking Mechanism For High Cost Support for Non-rural LECs	)	**Docket No. 97-160**
	)	

Motion of the Arizona Corporation Commission
To File Late-Filed Comments

In support of its Motion to File Late-Filed Comments in this proceeding, the Arizona Corporation Commission ("Arizona Commission" or "ACC") states as follows:

1. On August 7, 1998, the Common Carrier Bureau ("CCB") issued a Notice seeking comment on the model platform used to calculate the forward-looking economic cost of providing universal service for non-rural carriers serving rural, insular, and high cost areas. The CCB set August 28, 1998, as the deadline for initial comments.

2. The Notice raises issues of extreme importance to the ACC, since resolution of these issues will have an impact on the amount of federal universal service funds some Arizona carriers receive in the future to serve rural, insular and high cost areas.

3. Due to the press of business, the Arizona Commission was unable to complete its comments by the deadline established by the CCB.

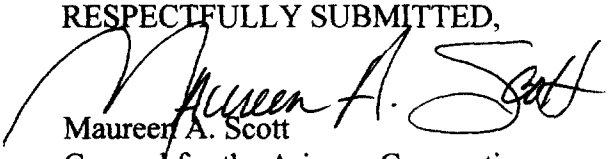
4. No other party is likely to represent the views of the Arizona Commission on these important issues, and therefore, in the interests of developing a complete and developed record on these issues, the views of the ACC are important.

5. In addition, no party is likely to be prejudiced by the CCB's acceptance of these late filed comments since the ACC is only five business days out of time and the ACC will serve a copy of its comments on other parties filing initial comments in

response to the CCB's notice. Additionally, other parties will have an opportunity to submit reply comments on the ACC's initial comments.

WHEREFORE, the Arizona Corporation Commission respectfully requests that the FCC-CCB grant the ACC's Motion to File Late-Filed Comments, or in the alternative, consider these Comments as ex parte, pursuant to Section 1.1206 of the Commission's Rules.

RESPECTFULLY SUBMITTED,



Maureen A. Scott
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Telephone: (602) 542-3402

Dated: September 4, 1998.

Before the
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In the Matter of	)	
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	)	

Comments of the Arizona Corporation Commission on the CCB Notice Regarding Model Platform Development

I. Introduction

On August 7, 1998, the Common Carrier Bureau ("CCB") issued a Notice seeking comment on the model platform (fixed assumptions and algorithms) used to calculate the forward-looking economic cost of providing universal service for non-rural carriers serving rural, insular, and high cost areas. More specifically, the Notice seeks comment on "approaches to a model platform that combines specific aspects from the customer location and outside plant modules of the models under consideration.". Notice at p. 2. The Arizona Corporation Commission ("Arizona Commission" or "ACC") submits the following comments in response to the Notice.

The Arizona Commission does not believe that any of the models accurately depict customer location, and that therefore, none of the models at this time accurately estimate the cost of providing universal service in rural areas. The Arizona Commission is not convinced that combining customer location data from the three models under consideration will adequately resolve the concerns surrounding the customer location module of the platform. The ACC suggests that one means of compensating for the models' deficiencies in this regard would be to perform some independent verification of the models' results. In this way, the FCC could be assured that while its chosen methodology may not be perfect, the results at least realistically portray the forward-looking costs of providing universal service in rural areas.

II. Accurately Determining the Cost of Providing Universal Service in Rural Areas is Critical to the Ultimate Success of the Federal USF Program

The Notice indicates that three models have been submitted to the FCC for consideration as the platform for the federal mechanism: the Benchmark Cost Proxy Model (BCPM), the HAI Model (HAI), and the Hybrid Cost Proxy Model (HCPM). On March 6, 1998, the Arizona Commission solicited comment on cost proxy model selection from Arizona telephone providers and other interested parties. The comments received were extensive and reflected the great effort the parties put into them.

The Arizona Commission's investigation focused on the relative merits of the HAI 5.0a and the BCPM 3.1 (hereafter, HAI and BCPM). Like the FCC Staff, the Arizona Commission Staff did not find sufficient evidence that either the HAI or the BCPM accurately located customers in rural areas, and thus neither model at this time produces

accurate estimates of the cost of providing universal service in rural areas. While the Arizona Commission's proceeding did not encompass a review of the HCPM, we are not aware of any evidence that suggests that the HCPM improves on the HAI's or BCPM's ability to estimate costs in rural areas.

This is of concern since, as the FCC realizes, accurately determining the cost of service in rural areas is essential for the success of the USF regime that the FCC envisions. The fact that the FCC delayed the use of forward-looking cost studies in calculating USF support for rural carriers does not mitigate this problem to any significant degree in Arizona since U S WEST, a non-rural carrier, serves the majority of Arizona's rural customers. Thus, the concerns identified with the individual models in the CCB's recent Notice, along with the concerns expressed herein based upon the ACC's own investigation, must be addressed if the objective of universal service is truly to be met.

III. Sufficient Evidence Does Not Exist that Either the HAI or the BCPM Accurately Locates Customers in Rural Areas.

The FCC has made clear that accurate wire center line counts are required for a cost proxy model to be selected. However, the evidence before the Arizona Commission in its own proceeding indicates that neither the HAI or BCPM produce accurate wire center line counts. The FCC's Notice does not address this problem. One of U S West's major criticisms of the HAI model as set forth in its comments filed with the Arizona Commission is that the HAI's predicted wire center line counts do not equal actual ILEC line counts. To investigate U S West's claim, the Arizona Commission Staff compared both of the models' predicted line counts to line counts provided by U S West under its service quality tariff. The Arizona

Commission Staff determined that neither the BCPM or HAI model produced accurate line counts. Additionally, the magnitude of the difference between actual and predicted line counts was very similar for both models. Both models performed relatively worse in rural wire centers than in urban wire centers.

The Arizona Commission is aware that the HAI model allows for wire center line counts to be normalized to reported wire center line counts. However, it is unclear how such normalization would effect the HAI's placement algorithm. Another problem is that the HAI, the BCPM, and U S West's service quality report each indicate a different number of total wire centers in Arizona.

One of the primary issues raised by the Notice was the deficiencies of the current models at placing rural households. As evidence of the BCPM's accuracy at placing rural households U S West supplied the ACC with a variety of statistics from several states. As evidence that the BCPM's road-based placement methodology is superior, U S West indicated that correlation coefficients between housing units and road mileage are very high in Arizona, North Dakota, and Idaho. However, this information is of limited usefulness, since it simply indicates that where there are relatively more road miles there are also relatively more housing units. Nothing can be deduced from these statistics as to where housing units are actually located along these roads or which kinds of roads are likely to have housing units located along them.

U S West also indicated in its comments filed with the Arizona Commission that correlation coefficients between actual and BCPM predicted customer locations were quite high for certain wire centers in Texas, Wyoming, North Dakota, Idaho, and Minnesota.

However, for two reasons this information offers little reason to believe that the BCPM's placement algorithm is accurate. First, there is no indication that the wire centers chosen for this analysis represent a statistically valid sample of all the wire centers in question. Second, correlation coefficients are simply the wrong statistical measures to use in evaluating the accuracy of prediction. Correlation coefficients measure the degree to which data series *move* together. It says nothing about how close the two series are together which is the real issue in evaluating predictive accuracy. Thus, the Arizona Commission does not believe that sufficient evidence exists that the BCPM's placement algorithm is sufficiently accurate.

On the other hand, the accuracy of the HAI's placement algorithm is also questionable. In theory HAI's geocoding technique may be superior to the BCPM's arbitrary placement of customers along roads. However, the success of the geocoding techniques in practice is questionable. AT&T provided the Arizona Commission with the success rates of the HAI's geocoding procedure in Arizona. This data indicated that for 37% of the wire centers in Arizona *no* customers were successfully geocoded. Fully 59% of the wire centers in Arizona had geocoding success rates of less than 50%. Geocoding success rates in urban higher density areas were generally much higher than those indicated above. However, the rural areas, or high cost areas, are what is important to accurate USF funding.

Another issue raised in the FCC's Notice concerned the grouping of customer locations after they have been geocoded. The HAI groups customer locations into clusters. Customer locations that were not successfully geocoded are assumed to be along the border of the relevant census block. The HAI then "builds" plant to the clusters and to the locations along the census block border. The Arizona Commission is not aware of any information

regarding the accuracy of this final placement of customers in clusters and along census block borders.

The cost of a telecommunications network is highly dependent on where its customers are located. This is especially true in rural low density areas. Neither the BCPM nor HAI models have been shown to accurately place customers in rural areas. Thus, synthesizing the customer location techniques of these models is not likely to yield any more accurate customer location estimates.

IV. One Solution To Some of These Concerns May Be Independent Verification of the Results of the Cost Proxy Models

One potential solution to the concerns raised in the CCB Notice and these comments, is to adopt a procedure to independently verify the results of the models. Much of the debate concerning cost proxy models deals with the validity of their assumptions and the proper values of their inputs. However, these issues are fundamentally less important than the validity of the models' results. It is conceivable that a model with simplistic and unrealistic assumptions could produce more accurate results than models with complicated assumptions that attempt to mimic reality precisely.[1]

The Arizona Commission solicited comment on this issue in its own investigation. All of the commenters were evasive in their answer to this question. The Arizona

[1]The ACC's concerns with the HAI and BCPM models should not be interpreted as an endorsement of an embedded cost approach to USF funding. The ACC recognizes that USF funding must be based on forward-looking costs.

Commission's research into this matter indicates that very little substantial work has gone into verifying that the cost estimates the models produce accurately reflect the true forward-looking costs of providing telecommunications service. The ACC Staff feels that such an effort to verify the models' results is essential and is more important than having algorithms or inputs that are beyond question.

One possible method of investigating the accuracy of the proxy models' results might work as follows. First, a statically valid sample of census blocks or census block groups from the state (or from the entire United States) could be selected. Second, an independent panel of engineers would be utilized to determine the actual forward-looking costs in the selected areas. Finally, a comparison would be made of the engineers' forward-looking cost estimates to the estimates provided by the proxy models. This method would not be perfect but it would at least provide some information on the validity of the proxy models' results.

V. Conclusion

Accurately estimating forward-looking costs in rural areas is essential for the success of the USF framework put in place by the Telecommunications Act of 1996, which both the FCC and States are charged with implementing. The Arizona Commission could find no evidence in its own investigation that the placement algorithms used by the HAI and BCPM models are accurate in rural areas. Therefore, there is no reason to believe that a synthesis of the two algorithms would accurately place rural customers, and, that the results of either of these models accurately reflect true forward-looking costs. The ACC suggests that one means of compensating for the models' deficiencies in this regard would be to perform some independent verification of the model's results.

The Arizona Commission appreciates the opportunity to file comments on the important issues raised in the CCB Notice and looks forward to further participation on these important issues.

RESPECTFULLY SUBMITTED,

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Dated: September 4, 1998.